

Double-walled protective pipes DUOFLEX and DUOHARD



Double-walled protective pipes **DUOHARD** and **DUOFLEX** are intended, primarlly, for mechanical protection of cables laid in excavations and cable trenches. Generally, they are used for difficult section of cable routes such as, water courses, railway crossings, motorways. The pipes provide additional protection of water and gas supply lines, drainage or sloped sewers.

DUOHARD and **DUOFLEX** protective pipes comply with ČSN EN 61386-24: Conduit systems for cable management (Part 24: Particular requirements – Conduit systems buried underground). They have been certified by the Testing and Certification Institute in Zlín.

Project and laying instructions for plastic cable pipes produced by MATEICIUC a.s. (prepared by EGÚ Power Engineering Institute Brno, Power Network Dept.), are intended to facilitate project activities.

		DUOFLEX		DUOHARD	
outer diameter	inner diameter	standard production length (coils)	bend radius	standard production of rods	pallets length
mm	mm	m	m	m	m
40	32	50	0,20	-	-
50	40	50	0,23	-	-
63	51	50	0,26	-	-
75	61	50	0,29	6	552
90	75	50	0,33	6	600
110	94	50	0,37	6	570
125	105	50	0,40	6	408
160	136	50	0,43	6	198
200	171	25	0,50	6	138

PIPE DESIGN

- Outer wall corrugated for higher mechanical strength of the pipe.
- Inner wall smooth for easy cable installation. Slight corrugation provides for excellent flexibility, does not reduce passage capacity through the pipe in bends and maintains high strength.

MATERIAL

- DUOHARD outer and inner walls are made of PE-HD.
- DUOFLEX outer walls are made of PE-HD, inner wall are made of PE-LD (for diameters of 40, 50 or 63 mm) and of PE-HD (for diameters from 75 mm).

MECHANICAL STRENGTH

- **DUOFLEX** and **DUOHARD** protective pipes feature high mechanical strength owing to corrugated outer wall. PE-HD guarantees excellent impact resistance even at extreme temperature. Maximum allowed top load of protective pipes is shown in project and laying instructions issued by MATEICIUC a.s.
- Mechanical properties of DUOFLEX and DUOHARD pipes comply with relevant technical standards ČSN EN 61386-24.

HEAT RESISTANCE

- Installation temperature: handling PE-HD pipes within of -5° C to +50° C.
- Operation temperature: of -40° C to +70° C.

FIRE RESISTANCE

- PE pipes are included in C3 inflammation class according to ČSN 73 08 23.

INDUCTION CURRENT RESISTANCE

 Polyethylene is a very good insulating material. No induction current is generated within the pipeline, even in the vicinity of high voltage cable ducts.

CHEMICAL RESISTANCE

- Chemical resistance of pipes is guaranteed by the production material (HDPE).

PIPE CONNECTION

- The pipes are connected using slide-on couplings. Pipes of both production lengths (6 m, 25 m, 50 m) are delivered with a coupling on one end.

COLOUR DESIGN

Outer wall - red, black or blue (standard colours).

Inner wall - black (standard).

The durability and Chemical resistance of the colour agent is, at least, equal to that of the protective pipe, provided storage in compliance with manufacturer's instruction. Protective pipes contain colour agents "8" according to DIN 53388 (the eight-degree range as specified in DIN 54003, i.e. "8" - the best, "1" - the worst).

- Special colours on request (limited quantity).





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PIPE IDENTIFICATION

- Ink-jet identifications MATEICIUC a.s. DUOFLEX DN40 ČSN EN 61386-24.
- Individual coils and pallets have identification tags (manufacturer name and address, protection pipe type, nominal size, quantity, manufacturing date).

DRAWING ELEMENT AND CABLE INTRODUCTION

- DUOFLEX protective pipes in coils (25 m and 50 m) have pre-installed drawing elements, PV-PAD, thickness 1,2 mm or PP string 12 500 dtex.
- Cables must be introduced into DUOFLEX and DUOHARD pipes via drawing (blowing-in not possible).
 Smooth inner walls provide for easy cable introduction into the pipe.

ENVIRONMENTAL PROTECTION

- DUOFLEX and DUOHARD protective pipes are environmentally friendly and fully recyclable.

HANDLING

 Light weight DUOFLEX and DUOHARD protective pipes can be easily transported to building sites and installed.

TRANSPORT

- Provide for protection of plastic pipes against mechanical damage and deformation when loading/unloading.

STORAGE

Coil must be stored in horizontal position, maximum storage height 2 m. DUOFLEX: Max storage time
up to 3 months. It is not recommended to store in direct sunlight, to DN 160 does not contain
UV stabilizer. Ambient conditions must comply with ETS 300 019-1-1, class 1.3E.

PIPE LAYING

- Observe relevant laws and technical standards when laying protective pipes for power and communication cables.
- In order to maintain maximum mechanical strength of DUOFLEX and DUOHARD protective pipes observe installation instructions issued by MATEICIUC a.s.. In particular, avoid too small bending radius and excessive force when installing connection and fitting devices. Observe maximum allowed load. Use appropriate protection of pipe ends when laying into soil in order to prevent dirt inside the pipe which could damage the cable. After introduction of the cable into the pipe seal both ends to prevent dirt from coming into the pipe. Also, seal the ends of redundant pipe (if installed).

